



Office for
National Statistics
Swyddfa
Ystadegau Gwladol

Adjusting the Measurement of the Output of the Medical Sector for Quality: A Review of the Literature

**Session 2F: Meeting the Measurement Challenges of Official
Statistics Offices I**

Discussant

34th IARIW General Conference

Westin Bellevue Conference Hotel, Dresden, Germany
21-27 August 2016

Sanjiv Mahajan

Head of International Strategy and Coordination

Office for National Statistics (UK)

Sanjiv.mahajan@ons.gov.uk

Adjusting the Measurement of the Output of the Medical Sector for Quality: A Review of the Literature – Session 2F

Overview

- Paper being covered:

Adjusting the Measurement of the Output of the Medical Sector for Quality: A Review of the Literature

- Anne Hall (Bureau of Economic Analysis, USA)
- Background and aims
- Structure and content of the paper
- Summary of methods
- Other comments / observations
- Any questions?

Adjusting the Measurement of the Output of the Medical Sector for Quality: A Review of the Literature – Session 2F

Background and aims

- Importance of the USA medical sector is laid out:
 - Size, rapidly changing, policy needs and measurement challenges.
- First paper to collect, summarise and evaluate literature in this area:
 - Adjustment to output primarily based on observed health outcomes.
 - Adjustment to output based on observed treatments or processes.
- Overall aim is to review the literature.

“As much as 30 per cent of health care spending in the United States has been estimated to be wasteful and not lead to improved health outcomes”

Fisher et al. 2003, Skinner et al. 2005

Adjusting the Measurement of the Output of the Medical Sector for Quality: A Review of the Literature – Session 2F

Structure and content of the paper

- Introduction – scene setting.
- New contributions.
- Inflation measurement:
 - Challenges / biases with different price measurement and handling innovations
 - Laspeyres, Paasche and Fisher
- Measuring output:
 - Focus on “completed treatments”
 - Single episodes and multiple episodes within a year and across years
- Quality adjustment of output:
 - No consensus on how exactly to create such adjustments in National Accounts.
 - Outcomes-based quality adjustments
 - Quality-adjusted life-years and Disability-adjusted life-years
 - Process-based quality adjustments
 - Approach has greater data requirements.
- Conclusion with data needs and references

Adjusting the Measurement of the Output of the Medical Sector for Quality: A Review of the Literature – Session 2F

Summary of methods for quality adjustment of medical output

Type of adjustment	Advantages	Disadvantages
Outcomes-based	<ul style="list-style-type: none">• Data on mortality outcomes is available.• Only need aggregate outcomes data.• Reflects real-world productivity of medical care.	<ul style="list-style-type: none">• Require analysis of the contribution of medical care to health outcomes, which can require considering processes anyway.
Process-based	<ul style="list-style-type: none">• Do not require data on outcomes.	<ul style="list-style-type: none">• Requires more medical knowledge.• Requires detailed data on treatments given.• May be based on biased valuation of the benefits of medical treatment.

Adjusting the Measurement of the Output of the Medical Sector for Quality: A Review of the Literature – Session 2F

Summary of methods for valuing quality

	Advantages	Disadvantages
QALYs / DALYs / Life expectancy	<ul style="list-style-type: none">• Straightforward to compare the benefits of new treatments to those of old ones.	<ul style="list-style-type: none">• Harder to construct.• Life expectancy requires looking forward.• Harder to translate impairments in terms of QALYs / DALYs
Achievement of endpoint	<ul style="list-style-type: none">• Do not have to value impairments in terms of QALYs or DALYs.	<ul style="list-style-type: none">• Unclear how to handle if new treatment is so innovative that endpoint changes.
Hold quality constant	<ul style="list-style-type: none">• Relies less on medical research for valuation of treatments.• Results do not change if medical research revises benefits of treatments.	<ul style="list-style-type: none">• Unclear how to incorporate new treatment baskets.

Adjusting the Measurement of the Output of the Medical Sector for Quality: A Review of the Literature – Session 2F

Other comments / observations

- Health consumption expenditures according to NHEA in 2014:
 - 11.5% Paid out of pocket
 - 34.4% Private insurance
 - 38.7% Public insurance
 - ? Remaining?
- Single and multiple episodes
 - Want to cover all spending that contributes to “output” irrespective of year?
- SNA 2008 steer on explicit quality adjustments is clear.
- ESA 2010 excludes all such adjustments (not consistent with SNA 2008).

Adjusting the Measurement of the Output of the Medical Sector for Quality: A Review of the Literature – Session 2F

Other comments / observations

UK ONS experience

- UK has the National Health Service in place thus look at productivity of public services – try to adjust output for productivity as opposed to prices as in most of the USA based papers.
- Regularly calculates a quality adjustment for healthcare output, produced as part of an annual healthcare productivity publication.
- Hospital services output is adjusted by four measures - health gain, short-term survival, waiting times, national patient survey.
- NHS administrative data sources used for cost of treatment and activity are accurate and highly detailed – enabling adjustments for higher intensities of care, for example, the number of supported organs in critical care.
- GP (primary) care is also adjusted based on patient satisfaction from the national patient survey, and the incidence of incentive payments obtained by GPs under the "qualities and outcomes framework".

www.ons.gov.uk/economy/economicoutputandproductivity/publicservicesproductivity/articles

Adjusting the Measurement of the Output of the Medical Sector for Quality: A Review of the Literature – Session 2F

Overall

- Fair assessment of the difficulties / differences with the studied methods.
- Need to have measures attributable to healthcare activity as opposed to lifestyle.
- Maybe extend to developing international comparisons
 - Methods, differences and numbers

Adjusting the Measurement of the Output of the Medical Sector for Quality: A Review of the Literature – Session 2F



Any questions?

Sanjiv Mahajan

Head of International Strategy and Coordination
Office for National Statistics (UK)

sanjiv.mahajan@ons.gov.uk

